

# s840Z

## SAS SSD

### High-Performance 2.5" ZIL Solution

The s840Z SAS SSD from HGST is purpose-built to be the SSD of choice for ZIL applications requiring 2.5" SSD deployment, while acting as a write log with fast write access and low latencies.

SSDs are typically used to alleviate performance bottlenecks within storage systems. Modern file systems, such as the flash / SSD-aware Zettabyte File System (ZFS), leverage SSDs to accelerate the overall performance of the storage system. One of ZFS' primary purposes for SSD is in ZIL (ZFS Intent Log) applications.

The s840Z SAS SSD is not only tuned to perform for ZFS ZIL workloads—it also delivers data persistence across planned and unplanned power failure events. Based on HGST's patented fourth-generation SSD controller technology, the s840Z delivers a level of performance, endurance (i.e., device lifetimes), high availability and reliability unmatched in the industry.

### Features and Benefits

Feature / Function	Benefits
2.5-Inch Form Factor	Storage vendors are increasingly releasing new systems with 2.5" slots, making the s840Z an ideal choice as a ZIL solution
SAS Interface	Supports industry-standard 6Gb SAS interface
High Performance	Transactional performance exceeds 120,000 sustained IOPS, with sustained sequential large block reads up to 530MB/s
High Reliability	Built using HGST's proprietary data path protection and Secure Array of Flash Elements™ (SAFE) Technology to protect all data—in flight and at rest—against any flash media failure
High Capacity	Provides 2X the capacity of the existing 3.5" ZIL solution
High Availability	Dual-ported SAS features allow for HA capabilities required for ZIL configuration
Endurance	Writes as much as 25 Petabytes of data—or 860 drive writes per day (DWPD)—for the life of the drive (5 years)



**Information and Technical Support**

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**Specifications**

<b>Models</b>	s840Z
<b>Interface</b>	
Capacity	16GB
Type	SAS (Serial Attached SCSI)
Transfer Rate	6Gb/s
Availability	Dual-Port
<b>Performance</b>	
Sustained Read Throughput	Up to 530MB/s <sup>1</sup>
Sustained Write Throughput	Up to 425MB/s
Max 100% Read IOPS	Up to 120,000
Max 100% Write IOPS	Up to 110,000
Latency (QD1, 4K Block Random Write)	39µs
<b>Physical</b>	
Form Factor	2.5-inch
Dimensions (mm)	100.2mm(L) x 69.8mm(W) x 15.0mm(H)
Weight	<0.4kg
<b>Environmental</b>	
Operational Temperature	0° to 60°C (Commercial)

<sup>1</sup> One GB is equal to one billion bytes when referring to hard drive capacity. Accessible capacity will vary depending on the operating environment and formatting.

<sup>2</sup> Portion of buffer capacity used for drive firmware

<sup>3</sup> MB is equal to MillionBytes

<sup>4</sup> Excludes command overhead

<sup>5</sup> MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under median operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.

<sup>†</sup>The drive saturates the I/O bus <sup>\*\*</sup>1TB = 1000GB <sup>††</sup>As used for capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. The available capacity is dependent upon the operating environment and formatting.

<sup>†††</sup>Recommended for read-intensive applications only.

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One GB is equal to one billion bytes and one TB equals 1,000 GB (one trillion bytes) when referring to hard drive capacity. Accessible capacity will vary from the stated capacity due to formatting and partitioning of the hard drive, the computer's operating system, and other factors.

MTBF target is based on a sample population and is estimated by statistical measurements and acceleration algorithms under median operating conditions. MTBF ratings are not intended to predict an individual drive's reliability. MTBF does not constitute a warranty.